

# 1988 EDITORIAL INDEX

## Technical articles by author and subject

### AUTHOR

**Abramson, B.C.**

Recapturing lost energy; with T.G. Tucker; June, p. 50

**Albern, W.E.**

Laboratory fume hood operation; with F. Darling and L.R. Farmer; March, p. 26

**Andersson, B.**

Performance evaluation of energy-saving measures; with M.A. Piette; June, p. 34

**Arens, E.A.**

Thermal comfort in office buildings; with G.E. Schiller; October, p. 26

**Bayer, C.W.**

Case studies; with M.S. Black; July, p. 48

**Baylor, D.A.**

Service life of energy conservation measures; with M.R. McRae, M.W. Ruto and R.O. Guddat; December, p. 25

**Bear, J.C.**

Selecting chemical treatment equipment; August, p. 39

**Black, M.S.**

Case studies; with C.W. Bayer; July, p. 48

**Bovill, C.**

Qualitative engineering; April, p. 29

**Burge, H.A.**

Pollutants; with M. Hodgson; July, p. 34

**Busch, R.D.**

Residential energy; with F.C. McQuiston, M.E. Levy and Z.T. Taylor; May, p. 37

**Butkus, Jr., A.S.**

The ice storage option; with D.L. Grumman; May, p. 20

**Carlton-Foss, J.A.**

Office ventilation; September, p. 24

**Chamberlain, G.**

An owner's requirement; March, p. 52

**Comstock, R.C.**

Providing four-season environmental comfort; June, p. 53

**Connor, M.C.**

Computer center design; with L. Hannauer; April, p. 20

**Creswick, F.A.**

How will CFC bans affect energy use?; with S.K. Fisher; November, p. 30

**Crutchfield, W.I.**

A system upgrade; with R.L. Wash; June, p. 40

**Darling, F.**

Laboratory fume hood operation; with W.E. Albern and L.R. Farmer; March, p. 26

**Davidson, K.G.**

Packaged cogeneration; with L.J. Kostrzewska; February, p. 22

**Eto, J.H.**

HVAC costs of fresh air ventilation; with C. Meyer; September, p. 31

**Esslinger, S.**

The true cost of refrigerant leaks; November, p. 27

**Fanger, P.O.**

The oil and the decipol; October, p. 35  
Hidden oils in sick buildings; November, p. 40

**Farmer, L.R.**

Laboratory fume hood operation; with W.E. Albern and F. Darling; March, p. 26

**Fischer, S.K.**

How will CFC bans affect energy use?; with F.A. Creswick; November, p. 30

**Flagg, L.F.**

Communications: A formula for progress; August, p. 20

**Grumman, D.L.**

The ice storage option; with A.S. Butkus, Jr.; May, p. 20

**Guddat, R.O.**

Service life of energy conservation measures; with M.R. McRae, M.W. Ruto and D.A. Baylor; December, p. 25

**Guttmann, N.B.**

Cold weather and heating system design; with M.S. Plantico; September, p. 38

**Hadden, R.M.**

A consultant's requirement; March, p. 47

**Haines, J.E.**

What is the NFPA?; April, p. 41

**Hannauer, L.**

Computer center design; with M.C. Connor; April, p. 20

**Hardin, D.**

Documentation of direct digital control; March, p. 42

**Herro, M.**

Thermal storage with EMS control; with R. Roach; May, p. 29

**Hey, G.W.**

Corrosion control in cooling tower systems; with W.R. Hollingshead; August, p. 33

**Hodgson, M.**

Pollutants; with H.A. Burge; July, p. 34

**Hollingshead, W.R.**

Corrosion control in cooling tower systems; with G.W. Hey; August, p. 33

**Imhoff, T.A.**

Public policy asbestos decisions; March, p. 38

**Jepson, S.C.**

Approximating wet bulb, dew point temperatures; January, p. 26

**Koenigsberg, J.**

Laboratory fume hood; with E.W. Seipp; February, p. 43

**Kohlhoff, J.T.**

An owner's perspective; March, p. 54

**Kostrzewska, L.J.**

Packaged cogeneration; with K.G. Davidson; February, p. 22

**Levy, M.E.**

Residential energy; with F.C. McQuiston, R.D. Busch and Z.T. Taylor; May, p. 37

**McQuiston, F.C.**

Residential energy; with M.E. Levy, R.D. Busch and Z.T. Taylor; May, p. 37

**McRae, M.R.**

Service life of energy conservation measures; with M.W. Ruto, R.O. Guddat and D.A. Baylor; December, p. 25

**Meltz, A.K.**

Microbial life in cooling water systems; August, p. 25

**Meyer, C.**

HVAC costs of fresh air ventilation; with J.H. Eto; September, p. 31

**Mitchell, J.**

Variable speed chiller system; January, p. 33

**Moore, T.B.**

Applying two-stage evaporative cooling; with R.D. Osbaugh; July, p. 26

**Nagengast, B.**

A historical look at CFC refrigerants; November, p. 37

**Osbaugh, R.D.**

Applying two-stage evaporative cooling; with T.B. Moore; July, p. 26

**Partridge, A.J.**

HVAC systems replacement; June, p. 47

**Piette, M.A.**

Performance evaluation of energy-saving measures; with B. Andersson; June, p. 34

**Plantico, M.S.**

Cold weather and heating system design; with N.B. Guttmann; September, p. 38

**Roach, R.**

Thermal storage with EMS control; with M. Herro; May, p. 29

**Rudin, A.**

Religious building energy use; with L.G. Spielvogel; February, p. 34

**Ruto, M.W.**

Service life of energy conservation measures; with M.R. McRae, R.O. Guddat and D.A. Baylor; December, p. 25

**Said, M.N.A.**

A review of smoke control models; April, p. 36

**Schiller, G.E.**

Thermal comfort in office buildings; with E.A. Arens; October, p. 26

**Seaton, W.W.**

ASHRAE research: individual and company support back projects, grants; with J.R. Wright; October, p. 42

**Seipp, E.W.**

Laboratory fume hood; with J. Koenigsberg; February, p. 43

**Solberg, D.P.W.**

Interactive matrices modeling standard; March, p. 43

**Sparks, L.E.**

Filtration/controls; July, p. 45

**Splethmann, D.E.**

Functional flowcharting; March, p. 48

**Spielvogel, L.G.**

Religious building energy use; with A. Rudin; February, p. 34

**Taylor, Z.T.**

Residential energy; with F.C. McQuiston, M.E. Levy and R.D. Busch; May, p. 37

**Teichman, K.Y.**

Simulation/modeling; July, p. 46

**Tsai, R.J.**

Calculation techniques for optimum duct design and flow simulation; October, p. 83

**Tucker, T.G.**

Recapturing lost energy; with B.C. Abramson; June, p. 50

**Waller, B.**

Various flow rates in condenser water cycle; January, p. 30

Pipe size selection; December, p. 31

# 1988 EDITORIAL INDEX

## Technical articles by author and subject

### AUTHOR

**Abramson, B.C.** Recapturing lost energy; with T.G. Tucker; June, p. 50

**Albern, W.E.** Laboratory fume hood operation; with F. Darling and L.R. Farmer; March, p. 26

**Andersson, B.** Performance evaluation of energy-saving measures; with M.A. Piette; June, p. 34

**Arens, E.A.** Thermal comfort in office buildings; with G.E. Schiller; October, p. 26

**Bayer, C.W.** Case studies; with M.S. Black; July, p. 48

**Baylor, D.A.** Service life of energy conservation measures; with M.R. McRae, M.W. Ruto and R.O. Guddat; December, p. 25

**Bear, J.C.** Selecting chemical treatment equipment; August, p. 39

**Black, M.S.** Case studies; with C.W. Bayer; July, p. 48

**Bovill, C.** Qualitative engineering; April, p. 29

**Burge, H.A.** Pollutants; with M. Hodgson; July, p. 34

**Busch, R.D.** Residential energy; with F.C. McQuiston, M.E. Levy and Z.T. Taylor; May, p. 37

**Butkus, Jr., A.S.** The ice storage option; with D.L. Grumman; May, p. 20

**Carlton-Foss, J.A.** Office ventilation; September, p. 24

**Chamberlain, G.** An owner's requirement; March, p. 52

**Comstock, R.C.** Providing four-season environmental comfort; June, p. 53

**Connor, M.C.** Computer center design; with L. Hannauer; April, p. 20

**Creswick, F.A.** How will CFC bans affect energy use?; with S.K. Fisher; November, p. 30

**Crutchfield, W.I.** A system upgrade; with R.L. Wash; June, p. 40

**Darling, F.** Laboratory fume hood operation; with W.E. Albern and L.R. Farmer; March, p. 26

**Davidson, K.G.** Packaged cogeneration; with L.J. Kostrzewska; February, p. 22

**Eto, J.H.** HVAC costs of fresh air ventilation; with C. Meyer; September, p. 31

**Esslinger, S.** The true cost of refrigerant leaks; November, p. 27

**Fanger, P.O.** The oil and the decipol; October, p. 35

**Hidden oils in sick buildings;** November, p. 40

**Farmer, L.R.** Laboratory fume hood operation; with W.E. Albern and F. Darling; March, p. 26

### Fischer, S.K.

How will CFC bans affect energy use?; with F.A. Creswick; November, p. 30

### Flagg, L.F.

Communications: A formula for progress; August, p. 20

### Grumman, D.L.

The ice storage option; with A.S. Butkus, Jr.; May, p. 20

### Guddat, R.O.

Service life of energy conservation measures; with M.R. McRae, M.W. Ruto and D.A. Baylor; December, p. 25

### Guttmann, N.B.

Cold weather and heating system design; with M.S. Plantico; September, p. 38

### Hadden, R.M.

A consultant's requirement; March, p. 47

### Haines, J.E.

What is the NFPA?; April, p. 41

### Hannauer, L.

Computer center design; with M.C. Connor; April, p. 20

### Hardin, D.

Documentation of direct digital control; March, p. 42

### Herro, M.

Thermal storage with EMS control; with R. Roach; May, p. 29

### Hey, G.W.

Corrosion control in cooling tower systems; with W.R. Hollingshead; August, p. 33

### Hodgson, M.

Pollutants; with H.A. Burge; July, p. 34

### Hollingshead, W.R.

Corrosion control in cooling tower systems; with G.W. Hey; August, p. 33

### Imhoff, T.A.

Public policy asbestos decisions; March, p. 38

### Jepson, S.C.

Approximating wet bulb, dew point temperatures; January, p. 26

### Koenigsberg, J.

Laboratory fume hood; with E.W. Seipp; February, p. 43

### Kohlhoff, J.T.

An owner's perspective; March, p. 54

### Kostrzewska, L.J.

Packaged cogeneration; with K.G. Davidson; February, p. 22

### Levy, M.E.

Residential energy; with F.C. McQuiston, R.D. Busch and Z.T. Taylor; May, p. 37

### McQuiston, F.C.

Residential energy; with M.E. Levy, R.D. Busch and Z.T. Taylor; May, p. 37

### McRae, M.R.

Service life of energy conservation measures; with M.W. Ruto, R.O. Guddat and D.A. Baylor; December, p. 25

### Meltz, A.K.

Microbial life in cooling water systems; August, p. 25

### Meyer, C.

HVAC costs of fresh air ventilation; with J.H. Eto; September, p. 31

### Mitchell, J.

Variable speed chiller system; January, p. 33

### Moore, T.B.

Applying two-stage evaporative cooling; with R.D. Osaugh; July, p. 26

### Nagengaast, B.

A historical look at CFC refrigerants; November, p. 37

### Osaugh, R.D.

Applying two-stage evaporative cooling; with T.B. Moore; July, p. 26

### Partridge, A.J.

HVAC systems replacement; June, p. 47

### Piette, M.A.

Performance evaluation of energy-saving measures; with B. Andersson; June, p. 34

### Plantico, M.S.

Cold weather and heating system design; with N.B. Guttmann; September, p. 38

### Roach, R.

Thermal storage with EMS control; with M. Herro; May, p. 29

### Rudin, A.

Religious building energy use; with L.G. Spielvogel; February, p. 34

### Ruto, M.W.

Service life of energy conservation measures; with M.R. McRae, R.O. Guddat and D.A. Baylor; December, p. 25

### Said, M.N.A.

A review of smoke control models; April, p. 36

### Schiller, G.E.

Thermal comfort in office buildings; with E.A. Arens; October, p. 26

### Seaton, W.W.

ASHRAE research: individual and company support back projects, grants; with J.R. Wright; October, p. 42

### Seipp, E.W.

Laboratory fume hood; with J. Koenigsberg; February, p. 43

### Solberg, D.P.W.

Interactive matrices modeling standard; March, p. 43

### Sparks, L.E.

Filtration/controls; July, p. 45

### Spathmann, D.E.

Functional flowcharting; March, p. 48

### Spielvogel, L.G.

Religious building energy use; with A. Rudin; February, p. 34

### Taylor, Z.T.

Residential energy; with F.C. McQuiston, M.E. Levy and R.D. Busch; May, p. 37

### Teichman, K.Y.

Simulation/modeling; July, p. 46

### Tsai, R.J.

Calculation techniques for optimum duct design and flow simulation; October, p. 83

### Tucker, T.G.

Recapturing lost energy; with B.C. Abramson; June, p. 50

### Waller, B.

Various flow rates in condenser water cycle; January, p. 30

Pipe size selection; December, p. 31

**Wash, R.L.**  
A system upgrade, with W.I. Crutchfield; June, p. 40

**Wheeler, A.E.**  
Design concepts; July, p. 40

**Wright, J.D.**  
Designing a new refrigeration system; June, p. 58

**Wright, J.R.**  
ASHRAE research: individual and company support  
back projects, grants, with W.W. Seaton; October,  
p. 42

## SUBJECT

### Air Cleaning

Filtration/controls; L.E. Sparks; July, p. 45

### Air Conditioning

Computer center design; M.C. Connor and  
L. Hannauer; April, p. 20

Qualitative engineering; C. Bovill; April, p. 29

Cool storage system design; F.J. Pearson; July,  
p. 20

Design concepts; A.E. Wheeler; July, p. 40

A system upgrade; W.I. Crutchfield and R.L. Wash;  
June, p. 40

HVAC systems replacement; A.J. Partridge; June,  
p. 47

Recapturing lost energy; B.C. Abramson and  
T.G. Tucker; June, p. 50

HVAC costs of fresh air ventilation; J.H. Eto and  
C. Meyer; September, p. 31

### Air Cooling

Applying two-stage evaporative cooling;  
R.D. Osbaugh and T.B. Moore; July, p. 26

### Air Quality

Indoor air quality; July, p. 32

Pollutants; H.A. Burge and M. Hodgson; July, p. 34

Design concepts; A.E. Wheeler; July, p. 40

Filtration/controls; L.E. Sparks; July, p. 45

Simulation/modeling; K.Y. Teichman; July, p. 46

Case studies; C.W. Bayer and M.S. Black; July, p. 48

Public policy asbestos decisions; T.A. Imhoff;  
March, p. 38

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

The off and the decipol; P.O. Fanger; October, p. 35

Hidden offs in sick buildings; P.O. Fanger;  
November, p. 40

### Chillers

Variable speed chiller system; J. Mitchell; January,  
p. 33

### Chlorofluorocarbons

An industry at risk; August, p. 45

A historical look at CFC refrigerants; B. Nagengast;  
November, p. 37

How will CFC bans affect energy use?; S. K. Fischer  
and F.A. Creswick; November, p. 30

### Cogeneration

Packaged cogeneration; L.J. Kostrzewa and  
K.G. Davidson; February, p. 22

### Comfort

Thermal comfort in office buildings; G.E. Schiller  
and E.A. Arens; October, p. 26

The off and the decipol; P.O. Fanger; October, p. 35

### Compressors

The true cost of refrigerant leaks; S. Esslinger;  
November, p. 27

### Computers

Computer center design; M.C. Connor and  
L. Hannauer; April, p. 20

### Condensers

Various flow rates in condenser water cycle;  
B. Waller; January, p. 30

### Contamination

Pollutants; H.A. Burge and M. Hodgson; July, p. 34

### Control

A system upgrade; W.I. Crutchfield and R.L. Wash;  
June, p. 40

Recapturing lost energy; B.C. Abramson and  
T.G. Tucker; June, p. 50

Documentation of direct digital control; D. Hardin;  
March, p. 42

Interactive matrices modeling standard;  
D.P.W. Solberg; March, p. 43

A consultant's requirement; R.M. Hadden; March,  
p. 47

Functional flowcharting; D.H. Spethmann; March,  
p. 48

An owner's requirement; G. Chamberlain; March,  
p. 52

An owner's perspective; J.T. Kohlhoff; March, p. 54

Thermal storage with EMS control; M. Herro and  
R. Roach; May, p. 29

### Cooling Towers

Corrosion control in cooling tower systems;  
G.W. Hey and W.R. Hollingshead; August, p. 33

Selecting chemical treatment equipment;  
J.C. Bear; August, p. 39

The ice storage option; D.L. Grumman and  
A.S. Butkus, Jr.; May, p. 20

### Ducts

Calculation techniques for optimum duct design  
and flow simulation; R.J. Tsai; October, p. 83

### Economics

Pipe size selection; B. Waller; December, p. 31

### Energy

Religious building energy use; L.G. Spielvogel and  
A. Rudin; February, p. 34

HVAC costs of fresh air ventilation; J.H. Eto and  
C. Meyer; September, p. 31

How will CFC bans affect energy use?; S. K. Fischer  
and F.A. Creswick; November, p. 30

### Energy Awards

A system upgrade; W.I. Crutchfield and R.L. Wash;  
June, p. 40

HVAC systems replacement; A.J. Partridge; June,  
p. 47

Recapturing lost energy; B.C. Abramson and  
T.G. Tucker; June, p. 50

Providing four-season environmental comfort;  
R.C. Comstock; June, p. 53

Designing a new refrigeration system; J.D. Wright;  
June, p. 58

1988 ASHRAE Energy Awards; March, p. 33

### Energy Conservation

Religious building energy use; L.G. Spielvogel and  
A. Rudin; February, p. 34

Cool storage system design; F.J. Pearson; July, p. 20

Performance evaluation of energy-saving mea-sures;  
M.A. Piette and B. Andersson; June, p. 34

A system upgrade; W.I. Crutchfield and R.L. Wash;  
June, p. 40

HVAC systems replacement; A.J. Partridge;  
June, p. 47

Recapturing lost energy; B.C. Abramson and  
T.G. Tucker; June, p. 50

Providing four-season environmental comfort;  
R.C. Comstock; June, p. 53

Designing a new refrigeration system; J.D. Wright;  
June, p. 58

Residential energy; F.C. McQuiston, M.E. Levy,  
R.D. Busch and Z.T. Taylor; May, p. 37

How will CFC bans affect energy use?; S. K. Fischer  
and F.A. Creswick; November, p. 30

Service life of energy conservation measures;  
M.R. McRae, M.W. Ruto, R.O. Guddat and  
D.A. Baylon; December, p. 25

### Microbiology

Microbial life in cooling water systems; A.K. Meitz;  
August, p. 25

Corrosion control in cooling tower systems; G.W. Hey  
and W.R. Hollingshead; August, p. 33

Selecting chemical treatment equipment; J.C. Bear;  
August, p. 39

### Modeling

A review of smoke control models; M.N.A. Said;  
April, p. 36

Simulation/modeling; K.Y. Teichman; July, p. 46

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

Calculation techniques for optimum duct design  
and flow simulation; R.J. Tsai; October, p. 83

### Noise

The ice storage option; D.L. Grumman and  
A.S. Butkus, Jr.; May, p. 20

### Office Buildings

Design concepts; A.E. Wheeler; July, p. 40

Case studies; C.W. Bayer and M.S. Black; July, p. 48

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

Hidden offs in sick buildings; P.O. Fanger;  
November, p. 40

### Piping

Pipe size selection; B. Waller; December, p. 31

### Pollution

Pollutants; H.A. Burge and M. Hodgson; July, p. 34

Filtration/controls; L.E. Sparks; July, p. 45

Simulation/modeling; K.Y. Teichman; July, p. 46

### Heat Recovery

Providing four-season environmental comfort;  
R.C. Comstock; June, p. 53

### Hoods

Laboratory fume hood; J. Koenigsberg and  
E.W. Seipp; February, p. 43

Laboratory fume hood operation; W.E. Albern,  
F. Darling and L.R. Farmer; March, p. 26

### Hospital

The ice storage option; D.L. Grumman and  
A.S. Butkus, Jr.; May, p. 20

### Human Factors

Thermal comfort in office buildings; G.E. Schiller  
and E.A. Arens; October, p. 26

The off and the decipol; P.O. Fanger; October, p. 35

Hidden offs in sick buildings; P.O. Fanger; November,  
p. 40

### Ice

The ice storage option; D.L. Grumman and  
A.S. Butkus, Jr.; May, p. 20

Thermal storage with EMS control; M. Herro and  
R. Roach; May, p. 29

### Industrial

Challenges in industrial refrigeration; April, p. 43

Providing four-season environmental comfort;  
R.C. Comstock; June, p. 53

### Laboratory

Laboratory fume hood; J. Koenigsberg and  
E.W. Seipp; February, p. 43

Laboratory fume hood operation; W.E. Albern,  
F. Darling and L.R. Farmer; March, p. 26

### Leakage

The true cost of refrigerant leaks; S. Esslinger;  
November, p. 27

### Load Calculation

Cold weather and heating system design;

N.B. Guttmann and M.S. Plantico; September, p. 38

### Maintenance

The true cost of refrigerant leaks; S. Esslinger;  
November, p. 27

Service life of energy conservation measures;

M.R. McRae, M.W. Ruto, R.O. Guddat and  
D.A. Baylon; December, p. 25

### Microbiology

Microbial life in cooling water systems; A.K. Meitz;  
August, p. 25

Corrosion control in cooling tower systems; G.W. Hey  
and W.R. Hollingshead; August, p. 33

Selecting chemical treatment equipment; J.C. Bear;  
August, p. 39

### Modeling

A review of smoke control models; M.N.A. Said;  
April, p. 36

Simulation/modeling; K.Y. Teichman; July, p. 46

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

Calculation techniques for optimum duct design  
and flow simulation; R.J. Tsai; October, p. 83

### Noise

The ice storage option; D.L. Grumman and  
A.S. Butkus, Jr.; May, p. 20

### Office Buildings

Design concepts; A.E. Wheeler; July, p. 40

Case studies; C.W. Bayer and M.S. Black; July, p. 48

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

Hidden offs in sick buildings; P.O. Fanger;  
November, p. 40

### Piping

Pipe size selection; B. Waller; December, p. 31

### Pollution

Pollutants; H.A. Burge and M. Hodgson; July, p. 34

Filtration/controls; L.E. Sparks; July, p. 45

Simulation/modeling; K.Y. Teichman; July, p. 46

## 1988 EDITORIAL INDEX

The off and the decipol; P.O. Fanger; October, p. 35  
Hidden oils in sick buildings; P.O. Fanger; November, p. 40

### President's Address

Communications: A formula for progress;  
L.F. Flagg; August, p. 20

### Psychrometrics

Approximating wet bulb, dew point temperatures;  
S.C. Jepson; January, p. 26

### Refrigerants

A historical look at CFC refrigerants; B. Nagengast;  
November, p. 37  
How will CFC bans affect energy use? S. K. Fischer  
and F.A. Creswick; November, p. 30  
The true cost of refrigerant leaks; S. Esslinger;  
November, p. 27

### Refrigeration

Challenges in industrial refrigeration; April, p. 43  
Designing a new refrigeration system; J.D. Wright;  
June, p. 58

A historical look at CFC refrigerants; B. Nagengast;  
November, p. 37

### Research

ASHRAE research: individual and company  
support backs projects, grants; J.R. Wright and  
W.W. Seaton; October, p. 42

### Research Note

Variable speed chiller system; J. Mitchell; January,  
p. 33

Calculation techniques for optimum duct design  
and flow simulation; R. J. Tsai; October, p. 83

### Residential

Residential energy; F.C. McQuiston, M.E. Levy,  
R.D. Busch and Z.T. Taylor; May, p. 37

### Schools

HVAC systems replacement; A.J. Partridge; June,  
p. 47

Recapturing lost energy; B.C. Abramson and  
T.G. Tucker; June, p. 50

### Sizing

Pipe size selection; B. Waller; December, p. 31

### Smoke Control

A review of smoke control models; M.N.A. Said;  
April, p. 36  
What is the NFPA? J.E. Haines; April, p. 41

### Standards

Design concepts; A.E. Wheeler; July, p. 40  
Residential energy; F.C. McQuiston, M.E. Levy,  
R.D. Busch and Z.T. Taylor; May, p. 37  
Thermal comfort in office buildings; G.E. Schiller  
and E.A. Arens; October, p. 26

### Thermal Response

Thermal comfort in office buildings; G.E. Schiller  
and E.A. Arens; October, p. 26

### Thermal Storage

Cool storage system design; F.J. Pearson; July, p. 20  
The ice storage option; D.L. Grumman and  
A.S. Butkus; July, p. 20  
Thermal storage with EMS control; M. Herron and  
R. Roach; May, p. 29

### Variable Volume

Design concepts; A.E. Wheeler; July, p. 40  
Laboratory fume hood operation; W.E. Albern,  
F. Darling and L.R. Farmer; March, p. 26

### Ventilation

Office ventilation; J.A. Carlton-Foss; September,  
p. 24

HVAC costs of fresh air ventilation; J.H. Eto and  
C. Meyer; September, p. 31

The off and the decipol; P.O. Fanger; October, p. 35  
Hidden oils in sick buildings; P.O. Fanger;  
November, p. 40

### Water Treatment

Microbial life in cooling water systems; A.K. Meitz;  
August, p. 25

Corrosion control in cooling tower systems;  
G.W. Hey and W.R. Hollingshead; August, p. 33

Selecting chemical treatment equipment; J.C. Bear;  
August, p. 39

### Weather

Cold weather and heating system design;  
N.B. Gutman and M.S. Plantico; September, p. 38

## ADVERTISING SALES

### ASHRAE JOURNAL

1791 Tullie Circle NE  
Atlanta, GA 30329  
(404) 536-8400

### Advertising Sales Manager

**Ed Farley**

### Advertising Production Manager

**Irene F. Eggeling**

### REGIONAL MANAGERS

#### Eastern

**Robert H. Nelson • Ralph Miller**  
**Michael Barbash**  
Nelson & Miller Assoc.,  
120 Main St.,  
Irvington-on-Hudson, NY 10533  
(914) 591-5053

#### Midwestern

**David Kingwill • Baird Kingwill**  
Kingwill Company  
4433 W. Touhy Ave., Suite 500,  
Lincolnwood, IL 60646  
(312) 675-5755

#### East No. Central (OH, KY & Eastern MI)

**Steve DiLauro**  
LaRich Associates  
15300 Pearl Road, Suite 112  
Strongsville, OH 44136  
(216) 238-5577

#### Southern

**Wm. Madden**  
Casey & Shore  
P.O. Box 757609,  
Roswell, GA 30076  
(404) 992-3005

#### Southwestern

**Ed Farley**  
ASHRAE JOURNAL  
1791 Tullie Circle NE  
Atlanta, GA 30329  
(404) 536-8400

#### Western

**Dwight E. Jennett**  
777 Silver Spur Road,  
Palos Verdes Peninsula, CA 90274  
(213) 377-3810

## ADVERTISING INDEX

For your convenience, below is a list of advertisers  
offering additional information on their products and  
services. If you want more information complete the  
business reply card, circle the appropriate  
number(s) and drop the card in the mail. No postage  
required.

Circle No.	Page
44	Acrosoft International Inc. .... 75
60	Air Movement & Control Assoc. .... 16-17
45	A-J Mfg. Co. .... 75
26	Alerton Technologies Inc. .... 43
	American Gas Assoc.,
8	Gas Energy, Hitachi .... 9
57	Gas Fired Prod., Space-Ray .... 87
25	Lochinvar .... 39
27	Sterling .... 45
5	American Yazaki Corp. .... 6-7
48	Aztech International Ltd. .... 80
	Battelle Pacific NW Labs .... 91
4	Bell & Gossett, ITT Fluid Technology Corp. .... 4
55	Buckley Air Products Co. .... 86
14	Calmac Mfg. Corp. .... 19
63	Cornerstones-Wright, Inc. .... 77
7	Data Aire, Inc. .... 10
	Donohue .... 93
52	Dumont Refrigeration Corp. .... 83
56	Dwyer Instruments, Inc. .... 86
36	Dynasonics Inc. .... 82

17	ESL .... 21
9	Ebiron Inc. .... 13
62	Elite Software Development Corp. .... 73
42	Environmental Controls Technol., TSI .... 67
2	Estimation, Inc. .... 1
12	Fafco Inc. .... 16
15	Field Controls Co. .... 20
47	Flexible Technologies Div., Automation Industries, Inc. .... 78
11	Furnas Electric Co. .... 15
16	General Eastern Corp. .... 20
1	Greenheck Fan Corp. .... 2nd Cover
19	Halstead Industrial .... 24
58	Heatcraft Inc. .... 4th Cover
10	Heat-Timer Corp. .... 14
49	Heat-Timer Corp. .... 81
37	Heat Treater Systems .... 63
	Houston Light & Power Co. .... 91
61	HyCal Engineering Co. .... 84
21	Hydronics Institute .... 30
4	ITT Fluid Technology Corp. .... 4
54	Industrial Airsystems, Inc. .... 85
28	International Exposition Co. .... 47
18	Knauf Fiberglass .... 22-23
31	Lakes Separators Corp. .... 52
50	Medical Technology Corp. .... 82
30	Morris & Assoc. .... 51
29	Mueller, Paul Co. .... 49
33	Munters, Carl AB .... 54-55
51	Neotronics North America, Inc. .... 83
58	Newtron Products .... 3rd Cover

34	Pacer Industries, Inc. .... 59
—	Pan Am World Services, Inc. .... 89
53	Paxton Corp. .... 84
43	Penn Ventilator Co. .... 71
20	Price, E.H. Co. .... 29
13	Safe-Air Inc. .... 17
39	Sauter Controls Corp. .... 64
38	Shortridge Instruments Inc. .... 63
35	Smith Sternau Organization .... 61
40	Solomat Corp. .... 65
8	Standard Refrigeration Co. .... 11
3	Stulz America Inc. .... 2
32	Taco Inc. .... 53
41	Titus Products Div., Phillips Indus. Inc. .... 66
23	Union Carbide Corp., Indus. Chem. .... 37
24	Vaisala, Inc. .... 38
22	Walton Laboratories .... 34
46	Wilco Corp., LubriMatic Div. .... 75

